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## NOTICE OF ALLOWANCE AND FEE(S) DUE

44989 7590 08/02/2010

HARRITY & HARRITY, LLP  
11350 Random Hills Road  
SUITE 600  
FAIRFAX, VA 22030

EXAMINER

DARNO, PATRICK A

ART UNIT

PAPER NUMBER

2158

DATE MAILED: 08/02/2010

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/813,359

03/31/2004

Karl Pfleger

0026-0070

5012

TITLE OF INVENTION: QUERY REWRITING WITH ENTITY DETECTION

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0	\$1810	11/02/2010

**THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.**

**THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.**

### HOW TO REPLY TO THIS NOTICE:

#### I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

**IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.**

# **PART B - FEE(S) TRANSMITTAL**

**Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE  
Commissioner for Patents  
P.O. Box 1450  
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or Fax (571)-273-2885**

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

44989 7590 08/02/2010

**HARRITY & HARRITY, LLP**  
11350 Random Hills Road  
SUITE 600  
FAIRFAX, VA 22030

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

## **Certificate of Mailing or Transmission**

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/813,359 03/31/2004 Karl Pfleger 0026-0070 5012

TITLE OF INVENTION: QUERY REWRITING WITH ENTITY DETECTION

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
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nonprovisional NO \$1510 \$300 \$0 \$1810 11/02/2010

EXAMINER	ART UNIT	CLASS-SUBCLASS
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DARNO, PATRICK A 2158 707-768000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1 \_\_\_\_\_
- (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 \_\_\_\_\_
- 3 \_\_\_\_\_

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies \_\_\_\_\_

4b. Payment of Fee(s); (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number \_\_\_\_\_ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature \_\_\_\_\_

Date \_\_\_\_\_

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Registration No. \_\_\_\_\_

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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EXAMINER

DARNO, PATRICK A

ART UNIT

PAPER NUMBER

2158

DATE MAILED: 08/02/2010

## Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 420 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 420 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/813,359	PFLEGER, KARL	
	<b>Examiner</b>	<b>Art Unit</b>	
	PATRICK A. DARNO	2158	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Applicant's communication filed 02/11/2010.
2. ☒ The allowed claim(s) is/are 61, 62, 65-74, and 77-85.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
  - \* Certified copies not received: \_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_.

**Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |   |
|--|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 5. <input type="checkbox"/> Notice of Informal Patent Application                     |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date ____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br>Paper No./Mail Date ____     | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                   |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance  |
|  | 9. <input type="checkbox"/> Other ____.   |

/Patrick A. Darno/  
Examiner  
Art Unit 2158  
06-05-2010

/Mohammad Ali/  
Supervisory Patent Examiner, Art Unit 2158

### **DETAILED ACTION**

1. Prior to the instant office action claims 61-85 were pending. In the instant office action, claims 61, 62, 65, 66, 73, 74, 77, 78, and 85 are amended. In the instant office action, claims 63, 64, 75, and 76 are canceled. Claims 61, 62, 65-74, and 77-85 are allowed over the prior art of record.
2. An Examiner's Amendment to the record appears below. Should the changes and/or additions be unacceptable to the Applicant, an amendment may be filed as provided by 37 C.F.R. 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the Issue Fee.
3. Authorization for this Examiner's Amendment was given by Applicant's representative James Bennin in a telephone call on 06-04-2010.

### **EXAMINER'S AMENDMENT**

**Claim 61:** (Currently Amended) A method, comprising:

receiving, by one or more processors of one or more servers, a query log comprising entries associating prior search queries with selected entity identifiers,

selecting, by one or more processors of one or more servers, a candidate string, from a list of candidate strings, where the candidate string appears in search queries associated with a common entity identifier, of the selected entity identifiers, in the query log and where the

Art Unit: 2158

candidate string is selected based on a distribution of different candidate strings appearing in prior search queries associated with the common entity identifier,

where the candidate string is selected based on how statistically peaked a count of clicks for the candidate string is compared to counts of clicks for one or more other candidate strings, and

where the candidate string is selected based on entropy of the distribution of counts of clicks for the different candidate strings, and

adding, by one or more processors of one or more servers, the candidate string to a query rewrite table, where the candidate string is associated with the common entity identifier and where, when a previously presented search query is received, the query rewrite table is used to identify the candidate string and include the common entity identifier in a rewritten search query.

**Claim 62:** (Currently Amended) The method of claim 61, where the ~~candidate string is selected based on~~ count of clicks for the candidate string comprises a count ~~counts~~ of clicks on an entity identifier given a candidate string appearing in a prior search query of the query log.

**Claim 63:** (Canceled)

**Claim 64:** (Canceled)

**Claim 65:** (Currently Amended) The method of claim ~~[[63]]~~ 61, where the candidate string is selected based on whether the count of clicks for the candidate string exceeds a combined count of clicks for the one or more other candidate strings.

**Claim 66:** (Currently Amended) The method of claim 61, where the entries of the query log include user behavior information and where the candidate string is selected ~~in part~~ based on the user behavior information.

**Claim 73:** (Currently Amended) A method, comprising:

receiving, by one or more processors of one or more servers, a search query, and  
where the search query includes a string in a query rewrite table, including, in a rewritten search query, an entity identifier associated with the string in the query rewrite table, where the query rewrite table is constructed by:

receiving, by one or more processors of one or more servers, a query log  
comprising entries associating prior search queries with selected entity identifiers;

selecting, by one or more processors of one or more servers, a candidate string  
from a list of candidate strings, where the candidate string appears in search queries associated  
with a common entity identifier, of the selected entity identifiers, in the query log and where the  
candidate string is selected based on a distribution of different candidate strings appearing in  
prior search queries associated with the common entity identifier,

where the candidate string is selected how statistically peaked a count of clicks  
for the candidate string is compared to counts of clicks for one or more other candidate  
strings, and

where the candidate string is selected based on entropy of the distribution of  
counts of clicks for the different candidate strings; and

Art Unit: 2158

adding, by one or more processors of one or more servers, the candidate string to the query rewrite table, where the candidate string is associated with the common entity identifier.

**Claim 74:** (Currently Amended) The method of claim 73, where the ~~candidate string is selected based on~~ count of clicks for the candidate string comprises a count ~~counts~~ of clicks on an entity identifier ~~identifiers~~ given a candidate string appearing in a prior search query of the query log.

**Claim 75:** (Canceled)

**Claim 76:** (Canceled)

**Claim 77:** (Currently Amended) The method of claim ~~[[75]]~~ 73, where the candidate string is selected based on whether the count of clicks for the candidate string exceeds a combined count of clicks for the one or more other candidate strings.

**Claim 78:** (Currently Amended) The method of claim 73, where the entries of the query log include user behavior information and where the candidate string is selected ~~in part~~ based on the user behavior information.



**Claim 85:** (Currently Amended) A system, comprising:

one or more devices comprising:

means for receiving a query log comprising entries associating prior search queries with selected entity identifiers,

means for selecting a candidate string, from a list of candidate strings, where the candidate string appears in search queries associated with a common entity identifier, of the selected entity identifiers, in the query log and where the candidate string is selected based on a distribution of different candidate strings appearing in prior search queries associated with the common entity identifier,

where the candidate string is selected based on how statistically peaked a count of clicks for the candidate string is compared to counts of clicks for one or more other candidate strings, and

where the candidate string is selected based on entropy of the distribution of counts of clicks for the different candidate strings, and

means for adding the candidate string to a query rewrite table, where the candidate string is associated with the common entity identifier and where, when a previously presented search query is received, the query rewrite table is used to identify the candidate string and include the common entity identifier in a rewritten search query.

***Allowable Subject Matter***

4. The following is an Examiner's statement of reasons for allowance: After reviewing the prosecution history and granting further consideration to the cited prior art, it appears that the

Art Unit: 2158

prior art of record fails to teach and/or suggest all the limitations of independent claims 61, 73, and 85. Specifically, the prior art of record fails to disclose wherein "a query rewrite table is used to identify [a] candidate string and include [a] common entity identifier in a rewritten query" ... "where the candidate string is selected based on how statistically peaked a count of clicks for the candidate string is compared to counts of clicks for one or more other candidate strings, **and** where the candidate string is selected based on entropy of the distribution of counts of clicks for the different candidate strings."

It is noted that the claimed "query rewrite table" tracks a relationship or association between candidate strings utilized in queries and entities such as online stores, news sources, product categories, brands or manufactures, specific product models, condition of products, authors, artists, people, places, and organizations [Applicant's Published Specification US 2005/0222976: paragraphs [0027] and [0045] and [0054]]. This combination of elements reciting the statistical analysis performed on the candidate strings to determine if a candidate string should be added to the relationship data stored in the "query rewrite table" and the relationship that is tracked by the "query rewrite table" itself, when coupled with the rest of the elements of independent claims 61, 73, and 85 results in a combination of elements which is novel and nonobvious over the prior art of record.

5. Any comments considered necessary by Applicant must be submitted no later than the payment of the issue fee and, to avoid processing delay, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Reasons for Allowance."

***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PATRICK A. DARNO whose telephone number is (571)272-0788. The examiner can normally be reached on Monday - Friday, 9:00 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ali can be reached on (571) 272-4105. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mohammad Ali/  
Supervisory Patent Examiner, Art Unit 2158

/Patrick A. Darno/  
Examiner  
Art Unit 2158  
06-05-2010

PAD